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PAPER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/673,848
Filing Date: September 29, 2003
Appellant(s): MITCHELL ET AL.

MAILED

MAY 03 2007

Technology Center 2100

Michael J. Buchenhorner
Reg. No. 33,162
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 26 DEC 2006 appealing from the Office action mailed 23 JUN 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

No evidence is relied upon by the examiner in the rejection of the claims under appeal.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 U.S.C. §101

1. 35 U.S.C. §101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

the invention as disclosed in claims 1-11 is directed to non-statutory subject matter.

2. Regardless of whether any of the claims are in the technological arts, none of the claims is limited to practical applications in the technological arts. Examiner finds that *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994) controls the 35 U.S.C. §101 issues on that point for reasons made clear by the Federal Circuit in *AT&T Corp. v. Excel Communications, Inc.*, 50 USPQ2d 1447 (Fed. Cir. 1999). Specifically, the Federal Circuit held that the act of:

...[T]aking several abstract ideas and manipulating them together adds nothing to the basic equation. *AT&T v. Excel* at 1453 quoting *In re Warmerdam*, 33 F.3d 1354, 1360 (Fed. Cir. 1994).

Examiner finds that Applicant's "a set of data structures" references are just such abstract ideas.

3. Examiner bases his position upon guidance provided by the Federal Circuit in *In re Warmerdam*, as interpreted by *AT&T v. Excel*. This set of precedents is within the same line of cases as the *Alappat-State Street Bank* decisions and is in complete agreement with those decisions. *Warmerdam* is consistent with *State Street*'s holding that:

Today we hold that *the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price*, constitutes a practical application of a mathematical algorithm, formula, or calculation because it produces 'a useful, concrete and tangible result' -- *a final share price momentarily fixed for recording purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.* (emphasis added) *State Street Bank* at 1601.

4. True enough, that case later eliminated the "business method exception" in order to show that business methods were not per se nonstatutory, but the court clearly *did not* go so far as to make business methods *per se statutory*. A plain reading of the excerpt above shows that the Court was *very specific* in its definition of the new *practical application*. It would have been much easier for the court to say that "business methods were per se statutory" than it was to define the practical application in the case as "...the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price..."

5. The court was being very specific.

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6. Additionally, the court was also careful to specify that the “useful, concrete and tangible result” it found was “a final share price momentarily fixed for recording purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.” (i.e. the trading activity is the further practical use of the real world monetary data beyond the transformation in the computer – i.e., “post-processing activity”).)

7. Applicant cites no such specific results to define a useful, concrete and tangible result. Neither does Applicant specify the associated practical application with the kind of specificity the Federal Circuit used.

8. Furthermore, in the case *In re Warmerdam*, the Federal Circuit held that:

...[T]he dispositive issue for assessing compliance with Section 101 in this case is whether the claim is for a process that goes beyond simply manipulating ‘abstract ideas’ or ‘natural phenomena’ ... As the Supreme Court has made clear, ‘[a]n idea of itself is not patentable, ... taking several abstract ideas and manipulating them together adds nothing to the basic equation’. In re Warmerdam 31 USPQ2d at 1759 (emphasis added).

9. Since the Federal Circuit held in *Warmerdam* that this is the “dispositive issue” when it judged the usefulness, concreteness, and tangibility of the claim limitations in that case, Examiner in the present case views this holding as the dispositive issue for determining whether a claim is “useful, concrete, and tangible” in similar cases. Accordingly, the Examiner finds that Applicant manipulated a set of abstract “data structures” to solve purely algorithmic problems in the abstract (i.e., what *kind* of “data structure” is used? Heart rhythm data? Algebraic equations? Boolean logic problems? Fuzzy logic algorithms? Probabilistic word problems? Philosophical ideas? Even vague expressions, about which even reasonable persons could differ as to their meaning? Combinations thereof?) Clearly, a claim for manipulation of “a set of data structures” is provably even more abstract (and thereby less limited in practical application) than pure “mathematical algorithms” which the Supreme Court has held are per se nonstatutory – in fact, it *includes* the expression of nonstatutory mathematical algorithms.

10. Since the claims are not limited to exclude such abstractions, the broadest reasonable interpretation of the claim limitations includes such abstractions. Therefore, the claims are impermissibly abstract under 35 U.S.C. §101 doctrine.

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11. Since *Warmerdam* is within the *Alappat-State Street Bank* line of cases, it takes the same view of “useful, concrete, and tangible” the Federal Circuit applied in *State Street Bank*. Therefore, under *State Street Bank*, this could not be a “useful, concrete and tangible result”. There is only manipulation of abstract ideas.

12. The Federal Circuit validated the use of *Warmerdam* in its more recent *AT&T Corp. v. Excel Communications, Inc.* decision. The Court reminded us that:

Finally, the decision in *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994) is not to the contrary. *** The court found that the claimed process did nothing more than manipulate basic mathematical constructs and concluded that ‘taking several abstract ideas and manipulating them together adds nothing to the basic equation’; hence, the court held that the claims were properly rejected under §101 ... Whether one agrees with the court’s conclusion on the facts, the holding of the case is a straightforward application of the basic principle that mere laws of nature, natural phenomena, and abstract ideas are not within the categories of inventions or discoveries that may be patented under §101. (emphasis added) *AT&T Corp. v. Excel Communications, Inc.*, 50 USPQ2d 1447, 1453 (Fed. Cir. 1999).

13. Remember that in *In re Warmerdam*, the Court said that this was the dispositive issue to be considered. In the *AT&T* decision cited above, the Court reaffirms that this is the issue for assessing the “useful, concrete, and tangible” nature of a set of claims under 101 doctrine. Accordingly, Examiner views the *Warmerdam* holding as the dispositive issue in this analogous case.

The fact that the invention is merely the manipulation of *abstract ideas* is clear. The data referred to by Applicant’s phrase “a set of data structures” is simply an abstract construct that does not provide limitations in the claims to the transformation of real world data (such as monetary data or heart rhythm data) by some disclosed process. Consequently, the necessary conclusion under *AT&T*, *State Street* and

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Warmerdam, is straightforward and clear. The claims take several abstract ideas (i.e., “a set of data structures” in the abstract) and manipulate them together adding nothing to the basic equation. Claims 1-11 are, thereby, rejected under 35 U.S.C. §101.

Claim Rejections - 35 U.S.C. §112

The following is a quotation of the first paragraph of 35 U.S.C. §112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-11 are rejected under 35 U.S.C. §112, first paragraph because current case law (and accordingly, the MPEP) require such a rejection if a §101 rejection is given because when Applicant has not in fact disclosed the practical application for the invention, as a matter of law there is no way Applicant could have disclosed *how* to practice the *undisclosed* practical application. This is how the MPEP puts it:

(“The how to use prong of section 112 **incorporates as a matter of law** the requirement of 35 U.S.C. §101 that the specification disclose as a matter of fact a practical utility for the invention.... If the application fails as a matter of fact to satisfy 35 U.S.C. §101, then the application also fails as a matter of law to enable one of ordinary skill in the art to use the invention under 35 U.S.C. §112.”); In re Kirk, 376 F.2d 936, 942, 153 USPQ 48, 53 (CCPA 1967) (“Necessarily, compliance with § 112 requires a description of how to use presently useful inventions, **otherwise an applicant would anomalously be required to teach how to use a useless invention.**”) See, MPEP 2107.01(IV), quoting In re Kirk (emphasis added).

Therefore, claims 1-11 are rejected on this basis.

(10) Response to Argument

Applicant argues the following:

Argument 1

The Examiner improperly rejected claims 1-11 as being directed to non-statutory subject matter. The Examiner rejected claims 1-11, stating that "none of the claims is limited to practical applications in the technological arts." Final Office Action at page 2. The Examiner now contends that he did not use that argument. However, as quoted above, the Examiner cannot deny that as a ground for rejection.

Examiner did not intend to make any "technological arts" argument. Any argument based on that theory, or construed to be so based, is hereby withdrawn. However, the 101 rejection themselves are not withdrawn because there are ample bases to maintain the rejections. The rejections, therefore, stand.

Argument 2

Claim 1 is quite simply in the process category. Section 101 is a broad statute that defined what is patentable, and not what is not patentable. The United States Court of Appeals for the Federal Circuit (hereafter called "the Federal Circuit") has noted that the repetitive use of the expansive term "any" in §101 shows Congress's intent not to place any restrictions on the subject matter for which a patent may be obtained beyond those specifically recited in §101. State Street Bank & Trust Co. v. Signature Fin. Group, 149 F.3d 1368, 47 USPQ2d 1596 (Fed. Cir. 1998), cert. denied, U.S., 119 S. Ct. 851 (1999). Moreover, the Supreme Court has acknowledged that Congress intended §101 to extend to "anything under the sun that is made by man." Diamond v. Chakrabarty, 447 U.S. 303, 309 (1980); see also Diamond v. Diehr, 450 U.S. 175, 182 (1981). Thus, it is improper to read limitations into §101 on the subject matter that may be patented where the legislative history indicates that Congress clearly did not intend such limitations. See Chakrabarty, 447 U.S. at 308 ("The Federal Circuit has also cautioned that courts 'should not read into the patent laws limitations and conditions which the

legislature has not expressed." (citations omitted)). *State Street Bank & Trust Co. v. Signature Fin. Group, supra*.

Applicant essentially argues that a claim preamble that recites that it is for a "process" is per se statutory because a "process" is one of the types of "patentable subject matter" enumerated in the statute.

That would be a clear and easily memorable bright line rule...but there is no such simple rule. The mere recital of the word "process" or "method" in the preamble of a claim does not make it automatically a statutory process.

To constitutionally interpret the word "method" or "process", the Supreme Court has held that:

****A process is a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the subject matter to be transformed and reduced to a different state or thing. ***The process requires that certain things should be done with certain substances, and in a certain order; but the tools to be used in doing this may be a secondary consequence."(Emphasis added) *Diamond, Commission of Patents and Trademarks v. Diehr and Lutton*, 209 USPQ 1, 6 (1981) quoting *Cochrane v. Deener*, 94 U.S. 780, 787-788 (1876).

This Constitutional interpretation of the word "process" is a long-standing one that the Supreme Court requires to be applied in interpreting 35 U.S.C §101. Diamond v. Diehr at 6. Consequently, the use of that interpretation is Constitutionally required when we interpret the Federal Circuit's standard that a "new and useful process" (or method) is one that produces a useful, concrete, and tangible result". Cf. State Street Bank & Trust Co. v. Signature Financial Group, Inc., 47 USPQ2d 1596, 1600-1601 (Fed. Cir. 1998).

Applicant discloses no "certain substances" that have been "transformed or reduced" in that applicant's claims disclose no specific computer-readable medium, no manipulation of specific data representing physical objects or activities (pre-computer activity), nor do they disclose any specific independent physical acts being performed by the invention (post-computer activity).

Applicant does not even disclose the manipulation of data representing "substances," that is, real world things.

Applicant only discloses a method of "identifying co-evolving regions in the memory of a target application" (Examiner will show that the "memory" is not a physical one and that it is a "memory of a target application" where the "application" is a pure computer language such as JAVA. The claimed invention is a way of dealing with "memory leaks" in a computer language...not a physical memory.) Such a method cannot satisfy Supreme Court requirements for a "method".

Further, Applicant uses the phrase "anything made by man" to assert that anything, such as pure algorithms, or his claims, can be statutory.

That idea would turn the Congressional statute into a nullity.

Examiner declines to read Congressional statutes to be nugatory.

Therefore, Examiner looks to the case law to see precisely how the statute is to be applied. First, Examiner notes that the Cochrane v. Deener quote cited above is reiterated in Diamond v. Diehr. The Supreme Court quoted itself at least twice on the issue and has maintained that position for over a hundred years.

To Examiner's mind, that is indicative of quite well settled law.

Apparently, the Federal Circuit also found that law to be well settled when it decided In re Warmerdam. Specifically, the Court held that:

...[T]he dispositive issue for assessing compliance with Section 101 in this case is whether the claim is for a process that goes beyond simply manipulating 'abstract ideas' or 'natural phenomena' ... **As the Supreme Court has made clear**, '[a]n idea of itself is not patentable, ... *taking several abstract ideas and manipulating them together adds nothing to the basic equation*. In re Warmerdam 31 USPQ2d at 1759 (emphasis added).

Please note how the logic of Warmerdam is the same as that in Cochrane v. Deener and Diamond v. Diehr. In Deener, the Supreme Court required "certain things" to be done to "certain substances" in a statutory claim. The logic of Warmerdam considers the same issue by looking at what a nonstatutory claim would look like. That is, doing "certain things" ("manipulation" in Federal Circuit parlance in Warmerdam) to "certain [non]substances" (i.e., "abstract ideas" in Federal Circuit parlance) does not meet the Deener/Diehr requirement ("adds nothing to the basic equation" in Federal Circuit parlance.)

In Warmerdam, the Federal Circuit follows the Supreme Court in lock-step.

Examiner is inclined to follow the same logic as the Courts.

Their decision makes intuitive sense because the word "manipulation" includes mathematical functions and computer subroutines that "manipulate" data. If one were to take an abstract function or subroutine and populate its variables with other abstract variables (i.e., "abstract ideas"), one would clearly have added nothing to the basic equation...the function or subroutine would remain abstract and unapplied to any practical application/utility.

Likewise, Applicant manipulates only abstract ideas. In his Specification, Applicant recites the following:

...Although it is to be understood that the techniques to be discussed can be implemented for use in a broad range of **applications**, we discuss embodiments of these techniques in an automated and lightweight memory leak detection tool. In a system according to the invention, these techniques can work on large scale Java applications. Furthermore, the

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techniques, although individually useful, are especially powerful when used in combination.

[0029] Referring to FIG. 2A, there is shown a block diagram 200 of a set of objects illustrating a leak root. A leak root is the object at the head of a data structure which is leaking in one or more ways. Consider an e-Business application with a known leak where each transaction places items into a global ActiveOrders structure 202, but fails to remove some of them when the transaction is complete. The application controls a system for selling CDs and books. In this example, the object Book 204 is removed properly, but the CDs 206 are inadvertently left connected. If every transaction leaks a CD 206 object, then ActiveOrders 202 is probably the best leak root: the most indicative, highest level object responsible.

[0030] We may distinguish between a data structure that contains a leak, in this example ActiveOrders 202, and the actual leaking substructures, in this case the CD 206 objects and everything to which they point. In general, a single data structure may contain more than one different type of leak, in addition to regions that are stable or are in flux but not growing.

[0031] The method illustrated in FIG. 2B is useful for understanding the overall evolution of a program's memory, such as for diagnosing memory footprint problems and understanding which portions of memory are used for caches vs. pools and diagnosing memory leaks, but for purposes of illustration we now discuss its application for finding memory leaks. An important step in finding leaks is to identify a few data structures in which leaks are likely to be occurring. First, we utilize the leak root concept, which is the head of a data structure containing regions exhibiting unbounded growth (leaks). Finding candidate leak roots is not straightforward because data structures are complex and their properties do not have a simple linear effect on the importance of that data structure. According to an embodiment of the invention, a method for ranking candidate leak roots combines, in a non-linear fashion, a collection of structural and temporal properties of an object reference graph. See Applicant's Application 10/673,848, Specification, pp. 10-13.

Applicant actually does give a statutory example in the Specification (and in the above quote) of an "application" that controls a system for selling books and CDs, but Applicant has declined to limit his actual claims to any such statutory matter.

Further, we see that a "memory leak" or "data leak" is merely unbounded growth in a data structure. The claims do not specify whether that data structure is functional data or merely descriptive data. They are unlimited.

Note also that the "applications" in the Specification can be (but not necessarily) generic, abstract JAVA "applications."

Therefore, Examiner finds that the claimed "memory applications" pertain to abstract management of any data in any computer language... such as JAVA as mentioned in the Specification. The claims do not look to physical internal data about the computer to determine what to do (such as physical memory locations and other physical resources of the computer.)¹

Further, the claims do not process any data from outside the computer representing anything that can be seen as a "substance" in the Deener/Diehr/Warmerdam sense (such as books or CDs.) There is no data from anywhere that represents any concrete or tangible thing in the real world. Having demonstrated in the Specification that it is possible to do so, Applicant has declined to actually do so in the claims.

The claims are devoid of such matter.

On this basis, Applicant has not shifted his burden of showing that his claims are statutory and Examiner's rejection of those claims STANDS.

Argument 3

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The only judicially-recognized exceptions to the broad rule of patentability are laws of nature, physical phenomena and abstract ideas. *Diamond v. Diehr*, 450 U.S. 175 (1981). The Board of Patent Appeals and Interferences has held that "there is currently no judicially recognized separate 'technological arts test' to determine patent eligible subject matter under §101." Therefore, the Examiner erred in attempting to apply this now discredited ground of rejection.

Examiner did not intend to make any "technological arts" argument. Any argument based on that theory, or construed to be so based, is hereby withdrawn. However, the 101 rejection themselves are not withdrawn because there are ample bases to maintain the rejections. The rejections, therefore, stand.

Argument 4

The Examiner also based the rejection of the claims as being allegedly directed to abstract ideas. Specifically the Examiner appears to argue that the claims produce no practical result. Quite to the contrary, the Background of the Invention of the subject patent application discusses the problems that the invention was intended to address. The invention claimed in the subject application relates to automatic memory management. See page 1, lines 17-18. This is a real and important area in computing. It is not merely an academic exercise. The claims do not relate to a scientific or mathematical construct. Computer programs create data structures during operation that are required to perform the intended purpose. However, those data structures can have detrimental effects such as unnecessarily consuming memory space that could otherwise be used for other purposes. Memory management keeps areas of memory available for storage and processing. It helps prevent system shutdown and failure. There is no doubt that those are concrete and tangible results.

Applicant points to limitations in the Specification to assert that the claims are statutory. Since Applicant has not invoked 112, sixth paragraph by making the claims "means-plus-function" claims or "step-for" claims, the limitations of the Specification

¹ In fact, the word "computer" is mentioned only once in Applicant's Specification to refer to a "computer readable medium" in the "Background of the Invention."

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cannot be "read into" the claims. The claims stand or fall based on their broadest reasonable interpretation. Applicant only addresses issues regarding computer languages (or "applications") in general. Applicant does not claim to be saving memory space in a computer nor does he claim to improve speed of a computer. He only claims the improvement of a pure algorithm (i.e., "application") that is free to be written in any language.

It is merely the management of any data in the abstract using any language in the abstract.

On this basis, Applicant has not shifted his burden of showing that his claims are statutory and Examiner's rejection of those claims stands.

Argument 5

The Examiner's reliance on In re Warmerdam, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir., 1994) and AT&T Corp. v Excel Communications Inc., 172 F.3d 1579, 50 USPQ2d 1447 (Fed. Cir. 1999) is misplaced. First, AT&T reversed the lower court's holding that the claims at issue in that case were invalid on grounds of 35 USC §101. Thus, the court states that "we reverse the district court's judgment of invalidity [on failure to claim statutory subject matter]." That is the holding of AT&T. AT&T did not hold that any claim was invalid for failure to comply with §101. Therefore, the Examiner's contention that the Federal Circuit validated the use of Warmerdam is simply wrong. Even if the AT&T court were to say that Warmerdam is a valid test such a statement would at most constitute obiter dicta which is not binding on other courts or on this Board.

Regardless of the conclusion on the facts in each case, the rule used by the Court was the same. The rule used is the same one used by the Federal Circuit in Warmerdam and used by the Supreme Court in its decisions in Deener and Diehr (and others.) AT&T shows that the Federal Circuit also has used the same dispositive

method in multiple cases to decide the issue...again indicating that it is well settled law.
The rule could be called the "Deener/Diehr/Warmerdam/AT&T" rule, but that's probably too many cases to list. For the sake of convenience, Examiner will call it the "Diehr/Warmerdam" rule.

Not only did the Supreme Court expressly quote itself to cite the same logic twice, but the Federal Circuit quoted itself to use the "Diehr/Warmerdam" rule twice as well.

Again, well settled, dispositive law that is binding.

The rule is not dicta, as Applicant asserts. Appeals under 35 U.S.C. §101 were at issue in the cases and the dispositive law used each time was the "Diehr/Warmerdam" rule. As the Court said in AT&T:

Finally, the decision in In re Warmerdam, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994) **is not to the contrary.** *** The court found that the claimed process did nothing more than manipulate basic mathematical constructs and **concluded that 'taking several abstract ideas and manipulating them together adds nothing to the basic equation';** hence, the court held that the claims were properly rejected under §101 ... Whether one agrees with the court's conclusion on the facts, the holding of the case is a straightforward application of the basic principle that mere laws of nature, natural phenomena, and abstract ideas are not within the categories of inventions or discoveries that may be patented under §101. (emphasis added) AT&T Corp. v. Excel Communications, Inc., 50 USPQ2d 1447, 1453 (Fed. Cir. 1999).

Note that the Court looked back to Warmerdam to show that it was being consistent in its logic and that its decision was following the "basic principle" of 101 doctrine. Now, the decision on the facts in AT&T was different because the Court decided that it found data that actually represented things in the real world (specifically

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the "PIC number".) However, on different facts, a case using the same rule could be decided differently, as shown in Warmerdam.

Accordingly, Examiner finds Applicant's argument regarding the law to be unpersuasive. On this basis, Applicant has not shifted his burden of showing that his claims are statutory and Examiner's rejection of those claims stands.

Argument 6

Second, Warmerdam represents a case where a data structure was a mathematical algorithm itself or a mathematical construct which constitutes an abstract idea. However, Warmerdam did not hold that data structures are per se non-statutory. In Warmerdam the inventor attempted to preempt the use of a fundamental relationship that any physical object may always be contained within spherical boundaries lines up along the medial access of the object. That is a mathematical construct or a mathematical relationship and that is not the case in the claims under appeal here. **Appellant's invention relates to processing of data structures.** Such data structures are something designed or invented by humans; they do not represent a mathematical relationship or construct. In Lowry the Federal Circuit gave **patentable weight** to the claimed data structure. A fortiori the data structure claimed is Lowry must be considered as statutory subject matter. As in In re Lowry, 32 F. 3d 1579, 32 USPQ2d 1031(Fed.Cir. 1994), Appellant's data structures define functional characteristics of the memory and the claims require specific electronic structural elements which impart a physical organization on the information stored in memory and the data structures provide increased computing efficiency. Appellant does not seek to patent a data model in the abstract. The Examiner cites Warmerdam **as if it held that data structures are per se nonstatutory** because the data structures were not analyzed other than citing Warmerdam and concluding erroneously that the holding in that case controls and mandates a holding of lack of patentable subject matter in this case. In re Lowry is inconsistent with that view.

Firstly, Examiner never argued that "data structures are per se non-statutory." Examiner merely applied the rule from Warmerdam the same way the Federal Circuit did. Further, data structures are not per se statutory either. The rule that should control on this issue is the Diehr/Warmerdam rule. A "data structure" could be a simple pure

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number. It could be a matrix of pure numbers. It could be a photograph. It could be a random data set. Applicant has not specified in the claims what his "data structure" is and what it is supposed to represent. In the broadest reasonable interpretation of the claims, the data structure is a pure abstract data set of non-functional data. Accordingly, it cannot by itself be said to bring statutory material to the claims.

Secondly, Applicant also invokes In re Lowry as support for his legal argument. Examiner reminds Applicant that no 101 issues were appealed to the Federal Circuit in that case, therefore, there can be no holding on any issues that were not at bar. The only issues that were considered by the Court were patentable weight issues under 102 and 103 doctrines. As the Court in Lowry stated:

When evaluating **patentability under sections 102 and 103**, the Board failed to give patentable weight to the claimed data structure. The Board stated that the claims on appeal specify relationships between the ADOs stored in the memory. The Board analogized Lowry's data structure comprised of ADOs to printed matter and relied on this statement from In re Gulack, 703 F.2d 1381, 217 USPQ 401 (Fed. Cir. 1983):

Where the printed matter is not functionally related to the substrate, the printed matter will not distinguish the invention from the prior art in terms of patentability. Although the printed matter must be considered, in that situation it may not be entitled to patentable weight.

Id. at 1385.

In Gulack, this court concluded that "the critical question is whether there exists any new and unobvious functional relationship between the printed matter and the substrate." Id. at 1386 (footnote omitted). The Board therefore framed the question as whether a new, nonobvious functional relationship exists between the printed matter (data structure with ADOs) and the substrate (memory). The Board determined that Lowry did not show such a functional relationship. Thus, the Board agreed with the examiner that the data structure could not distinguish the claimed invention from the prior art. The Board held that Kumpati, disclosing a CPU using a memory and containing stored data in a data structure, rendered all claims either anticipated or obvious. Lowry appealed.

Notice in the quote above that Lowry never appealed any §101 decisions to the Federal Circuit, therefore, those issues were never reached (i.e., how can there be a holding on a §101 issue if that issue was never before the Court? It can't. The "patentability" issues in that case were with respect to §102 and §103...not §101.)

As the Court stated at the outset:

"This court reviews the Board's determination of obviousness de novo."
(emphasis added.)

Note that the Court stated it was reviewing only the Board's determination of obviousness. Nowhere in the case does the Court say anything about reviewing any §101 determinations, since Lowry never even appealed any §101 determinations to the Court. On this basis, Applicant's use of In re Lowry is very clearly erroneous.

It is Examiner's opinion that Applicant takes the Court's arguments for "patentable weight" under §§ 102 and 103 and "construes" them to address an issue that they were never meant to address: §101 doctrine. In re Lowry is not applicable in any way to arguments in §101 doctrine and should not be represented as such. Perforce the basic facts and holdings of the Court in Lowry, Applicant's arguments based on that case are inherently unpersuasive and nugatory.

Argument 7

The Examiner did not consider In re Lowry and argues that "Lowry is not in any way applicable law to §101 doctrine." Final Office Action at page 15. **That argument is disingenuous.** Not only is it **contrary to the reaction** that the United States Patent Office had to the Lowry holding when it conceded the In re Beauregard case in response to Lowry but it is also **at odds with the facts of the Lowry case**. If the data structures in Lowry were not statutory subject matter the **Examiner must be suggesting that the Federal Circuit gave patentable weight to non-statutory subject matter in the context of sections 102 and 103**. In fact, the Federal Circuit did no such thing. The reason that the Board of Appeals gave no patentable weight to the claims in Lowry was that it analogized Lowry's data structure to printed matter (Lowry, 32 F.3d 1582) and the Patent and Trademark Office was of the opinion that printed matter was not patentable subject matter. Appellant is not now contending that the Examiner rejected the claims at issue on the basis of the printer matter doctrine. Therefore, the Federal Circuit would not have given patentable weight to the date structures if it believed that such structures were per se unpatentable. The Examiner states that he understands Appellant's affinity for In re Lowry. However, it cannot be seriously argued that it has no relevance to the issue on appeal. Clearly, Lowry dealt with data structures and it dealt with the "printed matter" test previously used by the PTO in section 101 rejections.

Examiner knows of In re Lowry and has carefully read and considered it in this matter. Examiner finds that it is clear to the most casual observer that 101 issues were not appealed to the Federal Circuit in that case. The Board apparently had overruled the Examiner on that issue. Applicant relies in part on the fact that the Board seemingly held the claims to be statutory and assumes that the Federal Circuit agreed.

Firstly, there is only a reference to the conclusion in the Board decision. There is no discussion of the law and application of that law performed by the Board and the Examiner...only the conclusion. Therefore, Applicant does not apply citations of law to support his argument...he only cites conclusions. In that respect, his argument is purely conclusory, since he applies no law in support of his opinion. If he wants to use the

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Board decision that led to Lowry, he should acquire a copy of the Board decision and apply the law as presented by the Board...not merely the raw conclusion.

Secondly, the citations in Lowry do not say WHY the Board overruled the Examiner. It might have been because of procedural issues. It might have been, judging from the date of the case, that the board was using law that the Federal Circuit no longer follows. Specifically, it is likely that the Board was using the old "Freeman-Walker-Abele" test that was in use in the USPTO at that time. If that is the case, the law used at that time is old and irrelevant because it was expressly overruled in State Street. Accordingly, it is insufficient to merely cite the conclusion of the Board. Since there is no law or reasoning mentioned in Lowry regarding the conclusion of the Board, any argument based on that conclusion is merely conclusory and nugatory.

Therefore, Applicant's assertion that Examiner's argument is "disingenuous" is erroneous. Examiner has clearly delimited the facts and law supporting his argument...while Applicant has cited no actual law. The law and principles cited from Lowry are only relevant to 102/103 patentable weight issues.

Finally, Applicant asserts that Examiner is suggesting that "the court gave patentable weight to non-statutory subject matter in the context of section 102 and 103."

Wrong.

Examiner is saying that the issue of whether the claims were statutory wasn't even considered by the Court. Perhaps they were statutory, perhaps they weren't. That issue is irrelevant because the issue was never appealed. Therefore, the patentable weight issues in Lowry were considered in isolation from 101 issues.

Although Applicant asserts Examiner's argument is "disingenuous" because Applicant believes it is "contrary to the reaction that the United States Patent Office had to the Lowry holding," so-called "reactions" are not law and have no stare decisis value. Examiners are to base their decisions on the substantive law and In re Lowry has no holdings to create substantive law regarding 101 issues. Therefore, Applicant's argument is unpersuasive and the rejections STAND.

Argument 8

Moreover, in Lowry the PTO Board of Appeals reversed the Examiner's 35 USC §101 rejection so it was not on appeal but the grounds for the rejection were still a live controversy because those grounds were "printed matter" rejection of software related claims. The Federal Circuit reversed the Board of Appeals printed matter rejection. It is illogical to consider that a rejection could be invalid in a section 102 and 103 context yet be valid in the threshold section 101 context. Therefore, the reversal of the section 102 and 103 rejections was relevant to the section 101 issue and should have been considered. Moreover, Lowry was decided a mere two weeks after Warmerdam and the Federal Circuit was certainly aware of that case. Lowry could not overrule Warmerdam because Lowry was not heard en banc. What Lowry did establish is that some data structures are not abstract ideas. Appellant contends that where as here the claims do not attempt to preempt all-uses of an algorithm those claims comfortably fall within the scope of section 101.

The grounds for the §101 rejections were not a "live controversy" because the §101 rejections were not appealed. That is, there was a **final judgment** by the Board that had **not been appealed**. Therefore, the grounds for those 101 rejections were not reviewed by the Federal Circuit. The issues actually reviewed by the Federal Circuit were the grounds of rejection for §§102 and 103. Namely, a "printed matter" rejection under §§102 and 103. Since §101 rejections had not been appealed, NO grounds of rejection for that issue were reviewed.

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Had a proper §101 rejection been made and sustained at the board level, the decision would likely have been similar to that of Warmerdam, which was also decided that same year...and is the law used by Examiner to support the rejections in this case. Therefore, Applicant's argument is unpersuasive and the rejections STAND.

Argument 9

The Examiner further contends that neither Lowry nor AT&T did not overrule Warmerdam. Appellant recognizes that it would require an en banc decision to overrule Warmerdam and neither the Lowry nor AT&T cases were heard en banc. Appellant does not contend and has never contended that Lowry or AT&T overruled Warmerdam but rather that Warmerdam did not rule that all data structures are abstract ideas. Appellant actually contends that the holding in Lowry means that data structures can be patentable subject matter and that what Warmerdam actually held is that data structures that are mere mathematical constructs are abstract ideas. The Examiner made no showing that Appellant's data structures are a mere mathematical construct.

Examiner did not assert that Warmerdam ruled that all data structures are abstract ideas. Examiner asserts that the claims must be given their broadest reasonable interpretation. MPEP 2111 requires this:

2111 [R-5] Claim Interpretation; Broadest Reasonable Interpretation
CLAIMS MUST BE GIVEN THEIR BROADEST REASONABLE
INTERPRETATION

During patent examination, the pending claims must be "given their broadest reasonable interpretation consistent with the specification." >The Federal Circuit's en banc decision in Phillips v. AWH Corp., 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir. 2005)

Now, a "data structure" in its "broadest reasonable interpretation" includes pure numbers, unless it has been claimed to represent more...such as books and CDs.

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Applicant claimed no limitations to distinguish his data structures from purely abstract data. Therefore, Applicant's claims for such matter are abstract.

Argument 10

The Examiner attacks a straw man in saying that Appellant argues that manufactures are per se statutory. Appellant has not made any such argument. The Board can review the actual arguments made by Appellant in response to the non-final Office Action. It is the Examiner who is trying to apply Warmerdam as a per se rule of unpatentability. The Examiner reasons that the claims at issue relate to data structures and Warmerdam has held that data structures are not patentable subject matter. Appellant's position is really quite straightforward. The first step is finding a category in section 101 for the claimed invention and in the second step the Patent Office bears the burden of showing that the invention fits into one of the judicially created exceptions to patentability. The Examiner misapprehended or mischaracterized Appellant's argument on the first step as the complete analysis. The Examiner cannot argue that the second step is met so he creates a straw man and attacks that.

Applicant did argue that products of manufacture are per se statutory. He renews that argument on page 10 of his Brief for Appeal where it recites:

Manufacture claim 10 was improperly rejected. Independent claim 10 is a **computer readable medium that recites patentable subject matter**. First, it is directed to a **manufacture classification of patentable subject matter**. Second, the Examiner has not shown that the processing of data structures is a mathematical construct as in Warmerdam. **Appellant contends that the computer readable form of claims fits into one of the categories of patentability and the Examiner has not shown the applicability of any judicial exception for patentability.**

A similar argument was presented by Applicant for method claims in "Argument 2" above.

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Claiming one of the categories of patentable subject matter is a necessary, but not sufficient condition to satisfy 101. Examiner did show the applicability of Cochrane v. Deener, Diamond v. Diehr, In re Warmerdam, and AT&T to this case and how Applicant's claims are abstract ideas, according to these cases. Four agreeing cases that are binding good law should be enough to satisfy Applicant of the clarity of the law on the issue and how the facts are to be judged. Having applied the cited law, Examiner found that Applicant's claims are devoid of statutory matter and are abstract ideas. The rejections STAND.

Argument 11

Similarly, the Examiner's reliance on AT&T is misplaced. In AT&T the Federal Circuit said "Because §101 includes processes as a category of patentable subject matter, the judicially defined proscription against patenting of a "mathematical algorithm," to the extent such a proscription still exists, is narrowly limited to mathematical algorithms in the abstract." Appellant does not claim a mathematical algorithm in the abstract. Rather, claims 1- 9 relate to methods for identifying co-evolving regions within a memory. Instead of applying Warmerdam as the Examiner contends, the AT&T court actually held that the claims of the patent at issue were directed at statutory subject matter. Although AT&T did not overrule Warmerdam it could not have applied it either because it held that the claims were statutory.

Examiner did not rely on AT&T alone to make the rejection. AT&T shows that the Federal Circuit is consistent in how it applies the law, regardless of the final conclusion on the facts. As the Court said in AT&T:

Finally, the decision in In re Warmerdam, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994) **is not to the contrary.** *** The court found that the claimed process did nothing more than manipulate basic mathematical constructs and **concluded that 'taking several abstract ideas and manipulating them together adds nothing to the basic equation';** hence,

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the court held that the claims were properly rejected under §101 ... Whether one agrees with the court's conclusion on the facts, the holding of the case is a straightforward application of the basic principle that mere laws of nature, natural phenomena, and abstract ideas are not within the categories of inventions or discoveries that may be patented under §101. (emphasis added) AT&T Corp. v. Excel Communications, Inc., 50 USPQ2d 1447, 1453 (Fed. Cir. 1999).

Applicant's argument is unpersuasive. The rejections STAND.

Argument 12

The Examiner appears to contend that according to Warmerdam the dispositive issue is the usefulness, concreteness, and tangibility of claim limitations. See Final Office Action at page 5. In fact, the language quoted above stated that the - issue of whether the claims directly or indirectly recite a mathematical algorithm was not the dispositive issue. Warmerdam, 33 F.2d at 1360. The court actually said that the dispositive issue was whether the claim is for a process that goes beyond simply manipulating "abstract ideas" or "natural phenomena." The court did not state that a concrete or tangible result was required. In any case, the data structures in Appellant's claims are like those in Lowry and do have practical results. The claims are not like those in Warmerdam. Appellant does not attempt to preempt a mathematical construct as in Warmerdam. The result is as tangible and concrete as the data structures in Lowry. The only rationale used by the Examiner is to incorrectly interpret Warmerdam as holding that all data structures are abstract ideas.

The following is a quote of what Examiner actually said in the rejection:

Since Warmerdam is within the Alappat-State Street Bank line of cases, it takes the same view of "useful, concrete, and tangible" the Federal Circuit applied in State Street Bank. Therefore, under State Street Bank, this could not be a "useful, concrete and tangible result". There is only manipulation of abstract ideas.

The rationale is this: The Federal Circuit based its decision in State Street on Alappat and overruled the old Freeman-Walker-Abele test. The Court said that the fundamental cases supporting its decision in State Street were Alappat and Diamond v.

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Diehr. In re Warmerdam was decided one month after Alappat...therefore it is within the line of cases defined by Alappat, State Street Bank, and AT&T. It is still good law and, by implication from the holdings in State Street regarding the change in legal thinking represented by cases decided after Alappat, Warmerdam incorporates the same notions regarding concreteness and tangibility that are in Alappat. This implication is made even more reasonable by AT&T, which was decided after State Street, because the Court said in that case that:

Finally, the decision in In re Warmerdam, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994) **is not to the contrary**. *** The court found that the claimed process did nothing more than manipulate basic mathematical constructs and concluded that 'taking several abstract ideas and manipulating them together adds nothing to the basic equation'; hence, the court held that the claims were properly rejected under §101 ... Whether one agrees with the court's conclusion on the facts, the holding of the case is a straightforward application of the basic principle that mere laws of nature, natural phenomena, and abstract ideas are not within the categories of inventions or discoveries that may be patented under §101. (emphasis added) AT&T Corp. v. Excel Communications, Inc., 50 USPQ2d 1447, 1453 (Fed. Cir. 1999).

When deciding AT&T, the Court not only considered issues from State Street, but considered this holding from Warmerdam too.

The final thing that makes In re Warmerdam a standard for evaluating the usefulness, concreteness, and tangibility of a claim is that the Court in Warmerdam said that the test was **dispositive** of the case...that is, all the usefulness, concreteness, and tangibility issues are considered when one uses the Warmerdam rule because it is **dispositive** of the case...and the Court reiterated this point after State Street in its AT&T holding. Here's a direct quote from Warmerdam:

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...[T]he **dispositive** issue for assessing compliance with Section 101 in this case is whether the claim is for a process that goes beyond simply manipulating 'abstract ideas' or 'natural phenomena' ... As the Supreme Court has made clear, '[a]n idea of itself is not patentable, ... **taking several abstract ideas and manipulating them together adds nothing to the basic equation**. In re Warmerdam 31 USPQ2d at 1759 (emphasis added).

Specifically, why did the Court look back to it in AT&T?

Because it is the Federal Circuit's way of following Supreme Court precedent.

Without the logic in Warmerdam, the Court would be doing something other than what the Supreme Court requires and would risk being overruled on appeal.

The Diehr/Warmerdam rule is a core principle in §101 doctrine that cannot be ignored. It is as binding as case law gets.

Argument 13

The Examiner further erred in applying an incorrect standard that uses a probability of abstractness. Thus, at page 5 of the final Office Action the Examiner states "Clearly, a claim for manipulation of 'a set of data structures' is provably [sic "probably"] even more abstract (and thereby less limited in practical application) than pure "mathematical algorithms" which the Supreme Court has held are per se nonstatutory . . ." [not citing any authority for this proposition] As explained above, the claims at issue are not directed at abstract ideas. The Examiner offered no evidence that manipulation of data structures is abstract. Certainly an unsupported statement that it is probably abstract is not evidence. A statement by the Examiner that the claimed data structures are abstract ideas begs the question and the statement that manipulation of a set of data structures is probably even more abstract than a pure mathematical algorithm does not provide the requisite proof of abstractness that is required of the Examiner.

Examiner wrote precisely what he meant. Examiner used the word "provably," as in provable, as in ability to prove. There is no "probability of abstractness." The claims are definitely abstract. The claims may be proved to be more abstract than pure mathematical algorithms in the following way:

Consider a "data structure" that consists of pure numbers being "evolved" by an algorithm. Note that pure mathematical functions are per se nonstatutory because they are abstract ideas. Note also that a purely mathematical "data structure" is actually a subset of what is claimed by Applicant...what Applicant actually claims is even more abstract than purely mathematical constructs.

Further, the classification of the numbers is merely a mapping of the numbers to other numbers. This can approximate any mathematical function because all functions are merely mappings of one set of numbers to another. This is why a major use of classifiers in A.I. is to create "universal function approximators." Note that the function remains unspecified unless one discloses how the classifier is trained with real world data. Once such data are specified, a class of functions for the practical application becomes known to one of ordinary skill in the art (This is, in part, why a 112, first paragraph rejection should be applied if 101 is violated with respect to a generic "classifier" in the artificial intelligence arts...even if the classifier is specified to be a neural net, support vector machine, or whatever. The actual function it is approximating remains unknown until the practical application is identified.)

In short, Applicant seeks to patent the transformation of unspecified things, using unspecified algorithms, to achieve unspecified results.

Examiner finds such claims to be unpatentable under 101 and 112. The rejections STAND.

Argument 14

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The requirement to exclude abstractions from the claim is not proper.

The Examiner contends that it is a reasonable interpretation of claim to include abstractions if not specifically excluded. The Federal Circuit has held that the claims must be interpreted in light of the specification.

"Claims must be read in view of the specification, of which they are a part." Phillips v. AWH Corp., 415 F.3d 1303, 1315 (Fed. Cir. 2005) (en banc). Indeed, the specification is "[u]sually. . . dispositive" and "is the single best guide to the meaning of a disputed term." Id. The Examiner cannot reasonably expect a negative statement in claims that excludes all conceivable abstractions if nothing in the specification suggests that such abstractions are included.

Examiner did not intend to require the exclusion of all abstractions. There is unclear language in the rejection that could be misread that way. What was meant was that Applicant's claims were broader than mathematical algorithms and are more abstract than something that is per se nonstatutory. Applicant did not write the claims to exclude "such" abstractions (i.e., abstractions that make the claims even more abstract than a mathematical algorithm) therefore, it cannot be said that the abstractions are not within the broadest reasonable interpretation of the claim.

In short, the broadest reasonable interpretation of the claims is more abstract than mathematical algorithms.

Examiner rejected the claims because they are devoid of any claimed practical applications. There is no intent to exclude all abstractions from the claims. If there is any point in the rejection that may be construed to require the exclusion of all abstractions, it is hereby withdrawn. However, none of the rejections is withdrawn since there are many reasons why they should be rejected.

Argument 15

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Manufacture claim 10 was improperly rejected. Independent claim 10 is a computer readable medium that recites patentable subject matter. First, it is directed to a manufacture classification of patentable subject matter. Second, the Examiner has not shown that the processing of data structures is a mathematical construct as in Warmerdam. Appellant contends that the computer readable form of claims fits into one of the categories of patentability and the Examiner has not shown the applicability of any judicial exception for patentability.

Claiming one of the categories of patentable subject matter is a necessary, but not sufficient condition to satisfy 101. Examiner did show the applicability of Cochrane v. Deener, Diamond v. Diehr, In re Warmerdam, and AT&T to this case and how Applicant's claims are abstract ideas, according to these cases. Four agreeing cases that are binding good law should be enough to satisfy Applicant of the clarity of the law on the issue and how the facts are to be judged. Having applied the cited law, Examiner found that Applicant's claims are devoid of statutory matter and are abstract ideas. The rejections STAND.

Argument 16

Machine claim 10 was improperly rejected. Independent claim 11 is a claim that falls under the machine category of patentable subject matter under Section 101. Again, the Examiner has not shown that the data structures of the claims at issue are directed to a pure mathematical construct. In fact, even in In Re Warmerdam, the Federal Circuit stated that "claim 5 is for and is clearly patentable subject matter." Warmerdam, 33 F.3d at 1360. Although this statement is dictum it nevertheless indicates that the Warmerdam court considered its test to be more flexible than the application by the Examiner in this case.

Applicant asserts that claims with the word "apparatus" in their preambles are per se statutory.

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Not true. If that were true, it would be an obvious, easy to apply, bright line rule that "apparatus" claims are statutory under any and every condition. There is no such per se rule in §101 doctrine. If that were true, the Patent Office's job would be much easier and the Courts' jobs much more difficult. Here is what the Federal Circuit has actually said about the issue:

"Whether stated implicitly or explicitly, we consider the scope of Section 101 to be the same regardless of the form -- machine or process -- in which a particular claim is drafted. AT&T v. Excel, 50 USPQ2d 1447, 1452 (Fed. Cir. 1999) citing In re Alappat, 33 F.3d at 1581, 31 USPQ2d at 1589 (Rader, J., concurring) (emphasis added.)"

Further, the Court held that:

"Furthermore, the Supreme Court's decisions in Diehr, Benson, and Flook, all of which involved method (i.e., process) claims, have provided and supported the principles which we apply to both machine- and process-type claims. Thus, we are comfortable in applying our reasoning in Alappat and State Street to the method claims at issue in this case." AT&T v. Excel, 50 USPQ2d 1447, 1452 (Fed. Cir. 1999)

The Federal Circuit was quite clear as to the fact that the scope of §101 is the same regardless of the form -- machine or process -- in which the claim is drafted.

The Courts do not focus on the type of "patentable subject matter" (i.e., apparatus, method, product of manufacture, or composition of matter) in the preamble of the claim. The courts focus on the factors held in Diamond v. Diehr, Alappat, Warmerdam, State Street Bank, and Excel. The Courts had numerous opportunities to create a per se rule, but declined for various good reasons to do so. Applicant makes an

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argument that is directly opposed to Federal Circuit precedent. Examiner feels no motivation to follow Applicant on this course.

Applicant's argument is unpersuasive and the rejections STAND.

Argument 17

The claim rejections under 35 USC 112 are improper. The Examiner rejected claims 1-11 under 35 USC 112, first paragraph because allegedly there is no way Appellant could have disclosed how to practice the undisclosed practical application." Appellant disagrees that there are no practical applications for the claims at issue. In fact, Appellant has an extensive discussion on the problems faced by those skilled in the art and how to practice the claimed invention. Other than stating that the claims are not directed to statutory subject matter, the Examiner has not attempted to show any deficiency in the written description.

The claims are rejected under 35 U.S.C. §112, first paragraph because current case law (and accordingly, the MPEP) require such a rejection if a §101 rejection is given because when Applicant has not in fact disclosed the practical application for the invention, as a matter of law there is no way Applicant could have disclosed *how* to practice the *undisclosed* practical application. This is how the MPEP puts it:

("The how to use prong of section 112 **incorporates as a matter of law** the requirement of 35 U.S.C. §101 that the specification disclose as a matter of fact a practical utility for the invention.... If the application fails as a matter of fact to satisfy 35 U.S.C. §101, then the application also fails as a matter of law to enable one of ordinary skill in the art to use the invention under 35 U.S.C. §112."; In re Kirk, 376 F.2d 936, 942, 153 USPQ 48, 53 (CCPA 1967) ("Necessarily, compliance with §112 requires a description of how to use presently useful inventions, **otherwise an applicant would anomalously be required to teach how to use a useless invention.**") See, MPEP 2107.01(IV), quoting In re Kirk (emphasis added).

Examiner made a §101 utility rejection of the claims because they fail to indicate a specific practical utility (i.e., practical application) for the claimed invention.

Further, in the broadest reasonable interpretation of Applicant's "data structure," Examiner finds that they can be pure numbers. The classification of the pure numbers is merely a mapping of the numbers to other numbers. This can approximate any mathematical function because all functions are merely mappings of one set of numbers to another. This is why a major use of classifiers in A.I. is to create "universal function approximators." Note that the function remains unspecified unless one discloses how the classifier is trained with real world data. Once such data are specified, a class of functions for the practical application becomes known to one of ordinary skill in the art (This is, in part, why a 112, first paragraph rejection should be applied if 101 is violated with respect to a generic "classifier" in the artificial intelligence arts...even if the classifier is specified to be a neural net, support vector machine, or whatever. The actual function it is approximating remains unknown until the practical application is identified.)

In short, Applicant seeks to patent the transformation of unspecified things, using unspecified algorithms, to achieve unspecified results.

One of ordinary skill in the art would not know how to make and use the invention because Applicant has not provided information regarding which algorithms are required to make the invention (i.e., which algorithms the classifiers are approximating) and has not provided a practical utility to disclose to one of ordinary skill in the art "how to use"

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the invention (as required by the quote above from the MPEP about the "how to use prong" of 112, first paragraph.)

Argument 18

The Examiner contends that section 101 rejections are claim rejections and not objections to the claims. The rejection on the basis of 35 USC 112, first paragraph stated that Appellant has not disclosed the practical application of the invention. There is no requirement that claims include a recitation of a practical application. The Final Office Action even quotes MPEP where the following is said: "Necessarily, compliance with §112 requires a description of how to use presently useful inventions." Such teachings are in the specification and not in the claims. The burden of proving that the specification does not teach how to use the invention is on the Examiner. In re Caveney, 761 F.2d 671 (Fed. Cir. 1985). The Examiner has not met this burden of proof and the rejection should be reversed.

Applicant points to limitations in the Specification to assert that the claims are statutory. Since Applicant has not invoked 112, sixth paragraph by making the claims "means-plus-function" claims or "step-for" claims, the limitations of the Specification cannot be "read into" the claims. The claims stand or fall based on their broadest reasonable interpretation. Applicant only addresses issues regarding computer languages (or "applications") in general. Applicant does not claim to be saving memory space in a computer nor does he claim to improve speed of a computer. He only claims the improvement of a pure algorithm (i.e., "application") that is free to be written in any language.

It is merely the management of any data in the abstract using any language in the abstract.

On this basis, Applicant has not shifted his burden of showing that his claims are statutory and Examiner's rejection of those claims stands.

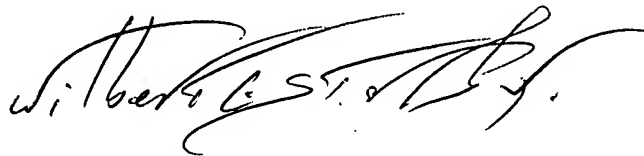
(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

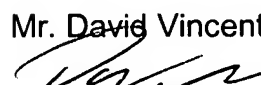
Respectfully submitted,

Wilbert L. Starks, Jr.



Conferees:

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4/3/07
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SUPERVISORY PATENT EXAMINER
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